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MECADEZ CORE TECHNOLOGIES PRIVATE LIMITED
PROJECT MANAGEMENT & CONSULTANCYSERVICES

Test Report
Concrete Compresive strength

	road from Amruthahalli main road to Jakkur Burial ground in Ward No.05
	Engineer, Project Division Yalahanka
	Project-YNK/2017-2018/QR/01
	covering slab
	(part 6)-1988 & Specification for Road & Bridge Works, MORT&H, Rev. V.

Grade	Age at Test (Days)	Weight (kg)	Dimension (LxWxH)	Density (kg/m^3)	Max. Load (KN)	Area (m^2)	Compressive Strength (N/mm^2)	Avg. Sample Strength	Avg. Strength
	28	8.15	150*150*150	2414.81	536	0.0225	23.82	23.75	23.81
	28	8.04	150*150*150	2382.22	533	0.0225	23.69		
	28	7.97	150*150*150	2361.48	534	0.0225	23.73		
	28	8.01	150*150*150	2373.33	546	0.0225	24.27	23.88	
	28	8.11	150*150*150	2402.96	532	0.0225	23.64		
	28	8.00	150*150*150	2370.37	534	0.0225	23.73		

strength of cement is 23.81 N/mm2

are based on the tests carried out on the sample at site.

the items tested.

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PROJECT MANAGEMENT & CONSULTANCY SERVICE

Test Report
Concrete Compresive strength

	Asphalting road from Amruthahalli main road to Jakkur Burial ground in Ward No.05
	Executive Engineer, Project Division Yalahanka
	MCTPL/BBMP/Project-YNK/2017-2018/QR/01
	Precast covering slab
	M/s. K.R.I.D.L
	IS: 4031 (part 6)-1988 & Specification for Road & Bridge Works, MORT&H, Rev. V.
	Raw
	Concrete
	-
	23-Jun-2018

Concrete Grade	Age at Test (Days)	Weight (kg)	Dimension (LxWxH)	Density (kg/m^3)	Max. Load (KN)	Area (m^2)	Compressive Strength (N/mm^2)	Avg. Sample Strength	Avg. Strength
20	28	8.25	150*150*150	2444.44	538	0.0225	23.91	23.84	23.90
20	28	8.14	150*150*150	2411.85	535	0.0225	23.78		
20	28	8.07	150*150*150	2391.11	536	0.0225	23.82		
20	28	8.11	150*150*150	2402.96	548	0.0225	24.36	23.97	
20	28	8.21	150*150*150	2432.59	534	0.0225	23.73		
20	28	8.10	150*150*150	2400.00	536	0.0225	23.82		

Compressive strength of cement is 23.90 N/mm2

above are based on the tests carried out on the sample at site.

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PROJECT MANAGEMENT & CONSULTANCYSERVICES

Test Report
Rate of Spread of Prime Coat

	Asphalting road from Amruthahalli main road to Jakkur Burial ground in Ward No.05
	Executive Engineer, Project Division Yalahanka
	MCTPL/BBMP/Project-YNK/2017-2018/QR/01
	Wet Mix Macadam
	K.R.I.D.L
	At Site
	Bitumen
	1
	12-Jun-2018

	Determination	Unit	Test No 1		
			Longitudinal Distribution		
	Size of Plate (mxn)	m^2	0.2x0.2	0.2x0.2	0.2x0.2
	Area of the Plate (a)	m^2	0.04	0.04	0.04
	Initial weight of the empty Plate (b)	kg	1.641	1.641	1.641
	Final weight of plate after application of Tack Coat (c)	kg	1.696	1.651	1.653
	Weight of Prime coat/ Tack Coat (d = c-b)	kg	0.055	0.01	0.012
	Rate of spread (d/a)	kg / m^2	1.375	0.250	0.300
	Average	kg / m^2	0.642		
	Specified Limit	kg / m^2	Not less than 0.6 kg / m^2		

Results: Rate of Spread of Prime Coat / Tack Coat is: 0.642 kg / m2

indicated above are based on the tests carried out on the sample at site.

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Test Report
Rate of Spread of Prime Coat

	Asphalting road from Amruthahalli main road to Jakkur Burial ground in Ward No.05
	Executive Engineer, Project Division Yalahanka
	MCTPL/BBMP/Project-YNK/2017-2018/QR/01
	Wet Mix Macadam
	K.R.I.D.L
	At Site
	Bitumen
	2
	12-Jun-2018

Sl. No.	Determination	Unit	Test No 1		
			Longitudinal Distribution		
1	Size of Plate (mxn)	m^2	0.2x0.2	0.2x0.2	0.2x0.2
2	Area of the Plate (a)	m^2	0.04	0.04	0.04
3	Initial weight of the empty Plate (b)	kg	1.641	1.641	1.641
4	Final weight of plate after application of Tack Coat (c)	kg	1.695	1.65	1.652
5	Weight of Prime coat/ Tack Coat (d = c-b)	kg	0.054	0.009	0.011
6	Rate of spread (d/a)	kg / m^2	1.35	0.225	0.275
7	Average	kg / m^2	0.617		
8	Specified Limit	kg / m^2	Not less than 0.6 kg / m^2		

Results: Rate of Spread of Prime Coat / Tack Coat is: 0.617 kg / m2

Note:

The results indicated above are based on the tests carried out on the sample at site.

The results relate only to the items tested.

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Test Report

Rate of Spread of Prime Coat

	Asphalting road from Amruthahalli main road to Jakkur Burial ground in Ward No.05
	Executive Engineer, Project Division Yalahanka
	MCTPL/BBMP/Project-YNK/2017-2018/QR/01
	Wet Mix Macadam
	K.R.I.D.L
	At Site
	Bitumen
	3
	12-Jun-2018

Sl. No.	Determination	Unit	Test No 1		
			Longitudinal Distribution		
1	Size of Plate (mxn)	m^2	0.2x0.2	0.2x0.2	0.2x0.2
2	Area of the Plate (a)	m^2	0.04	0.04	0.04
3	Initial weight of the empty Plate (b)	kg	1.641	1.641	1.641
4	Final weight of plate after application of Tack Coat (c)	kg	1.695	1.651	1.653
5	Weight of Prime coat/ Tack Coat (d = c-b)	kg	0.054	0.01	0.012
6	Rate of spread (d/a)	kg / m^2	1.35	0.25	0.3
7	Average	kg / m^2	0.650		
8	Specified Limit	kg / m^2	Not less than 0.6 kg / m^2		

Results: Rate of Spread of Prime Coat / Tack Coat is: 0.650 kg / m2

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PROJECT MANAGEMENT & CONSULTANCY SERVICES

Test Report
Aggregate Impact Value

Name	Asphalting road from Amruthahalli main road to Jakkur Burial ground in Ward No.05
	Executive Engineer, Project Division Yalahanka
	MCTPL/BBMP/Project-YNK/2017-2018/QR/01
Type	Wet Mix Macadam
	K.R.I.D.L
	Coarse Aggregate
Method	IS : 2386 (Part - 4) 1963 & Specification for Road & Bridge Works, MORT&H, Rev. V.
	At Site
No	1
	11-Jun-2018

Sl. No.	Determination	Unit	Trails	
1	Weight of empty cylinder, w1	gm	960	960
2	Weight of container filled with Aggregate, w2	gm	1300	1301
3	Weight of the Aggregate before compaction, (w2 - w1) = w3	gm	340	341
4	Weight of the sample passing through 2.36 mm IS sieves after Impact, w4	gm	79	80
5	Weight of the sample retained on 2.36 mm IS sieve after Impact, w5	gm	261	261
6	Aggregate Impact Value (w4 / w3)x100	%	23.24	23.46
7	Specified Limit	%	30	

Results: Average Aggregate Impact Value: **23.35** %

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#103, 1st Main, 3rd Cross, Kottigepalya, Magadi Main Road, Bangalore - 560 091

Test Report

Aggregate Particle Shape

	Asphalting road from Amruthahalli main road to Jakkur Burial ground in Ward No.05
	Executive Engineer, Project Division Yalahanka
	MCTPL/BBMP/Project-YNK/2017-2018/QR/01
	Wet Mix Macadam
	K.R.I.D.L
	IS : 2386 (Part - 1) 1963 & Specification for Road & Bridge Works, MORT&H, Rev. V.
	At site
	Coarse Aggregates
	1
	11-Jun-2018

Sieves Size		Weight of Retained Sample on Each Sieve (minimum 200 Pieces) (gm)	Flakiness Index		Elongation Index	
Passing through IS Sieves (mm)	Retained on IS Sieves (mm)		Thickness Gauge	Weight of Aggregates in each fraction passing on thickness gauges (gm)	Length Gauge	Weight of Aggregates in Fraction retained on length gauges (gm)
63	50	0	33.9	0	-	0
50	40	0	27	0	81	0
40	25	25	19.5	0	58.5	0
31.5	25	35	16.95	0	-	0
25	20	1556	13.5	236	40.5	254
20	16	1442	10.8	121	32.4	148
16	12.5	952	8.55	147	25.6	154
12.5	10	468	6.75	70	20.2	76
10	6.3	230	4.89	52	14.7	59
	SW	4708	SWf	626	SWe	691

Flakiness Index	13.30	%
Elongation Index	14.68	%

Combined Flakiness and Elongation Indices : 27.97 %

Comments: Maximum allowable Combined Flakiness and Elongation Indices for WMM is 35%

Note:

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Test Report
Aggregate Gradation

Name	Asphalting road from Amruthahalli main road to Jakkur Burial ground in Ward No.05
	Executive Engineer, Project Division Yalahanka
	MCTPL/BBMP/Project-YNK/2017-2018/QR/01
Type	Wet Mix Macadam
	K.R.I.D.L
Method	IS : 2386 (Part - 1) 1963 & Specification for Road & Bridge Works, MORT&H, Rev. V.
	Wet Mix Plant
	Coarse Aggregates
No	1
	12-Jun-2018

Sample: 4000 gms

I.S. Sieve size (mm)	Weight Retained (gm)	Percentage of weight Retained (%)	Cumulative Percentage of weight retained	Cumulative % of Passing		Remarks
				Test Result	Gradation Limits as per MORT&H	
53	0	0	0	100	100	Gradation satisfies the MORT&H Specification for Wet Mix macadam
45	100	2.5	2.5	97.5	95-100	
22.4	1100	27.5	30	70	60-80	
11.2	800	20	50	50	40-60	
4.75	700	17.5	67.5	32.5	25-40	
2.36	400	10	77.5	22.5	15-30	
0.06	300	7.5	85	15	(8-22)	
0.075	440	11	96	4	0-5	

Note:

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Test Report
Aggregate Gradation

Name	Asphalting road from Amruthahalli main road to Jakkur Burial ground in Ward No.05
	Executive Engineer, Project Division Yalahanka
	MCTPL/BBMP/Project-YNK/2017-2018/QR/01
	Wet Mix Macadam
	K.R.I.D.L
	IS : 2386 (Part - 1) 1963 & Specification for Road & Bridge Works, MORT&H, Rev. V.
	Wet Mix Plant
	Coarse Aggregates
	2
	12-Jun-2018

Sample: 4000 gms

I.S. Sieve size (mm)	Weight Retained (gm)	Percentage of weight Retained (%)	Cumulative Percentage of weight retained	Cumulative % of Passing		Remarks
				Test Result	Gradation Limits as per MORT&H	
53	0	0	0	100	100	Gradation satisfies the MORT&H Specification for Wet Mix macadam
45	100.5	2.51	2.51	97.49	95-100	
22.4	1100.5	27.51	30.02	69.98	60-80	
11.2	800.5	20.01	50.03	49.97	40-60	
4.75	700.5	17.51	67.54	32.46	25-40	
2.36	400.5	10.01	77.55	22.45	15-30	
0.06	300.5	7.51	85.06	14.94	(8-22)	
0.075	440.5	11.01	96.07	3.93	0-5	

Note:

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Test Report
Aggregate Gradation

Name	Asphalting road from Amruthahalli main road to Jakkur Burial ground in Ward No.05
	Executive Engineer, Project Division Yalahanka
	MCTPL/BBMP/Project-YNK/2017-2018/QR/01
Type	Wet Mix Macadam
	K.R.I.D.L
Method	IS : 2386 (Part - 1) 1963 & Specification for Road & Bridge Works, MORT&H, Rev. V.
	Wet Mix Plant
	Coarse Aggregates
No	3
	12-Jun-2018

Sample: 4000 gms

I.S. Sieve size (mm)	Weight Retained (gm)	Percentage of weight Retained (%)	Cumulative Percentage of weight retained	Cumulative % of Passing		Remarks
				Test Result	Gradation Limits as per MORT&H	
53	0	0	0	100	100	Gradation satisfies the MORT&H Specification for Wet Mix macadam
45	102	2.55	2.55	97.45	95-100	
22.4	1102	27.55	30.1	69.9	60-80	
11.2	802	20.05	50.15	49.85	40-60	
4.75	702	17.55	67.7	32.3	25-40	
2.36	402	10.05	77.75	22.25	15-30	
0.06	302	7.55	85.3	14.7	(8-22)	
0.075	442	11.05	96.35	3.65	0-5	

Note

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Test Report
Liquid and Plastic Limit by Cone Apparatus

Name	Asphalting road from Amruthahalli main road to Jakkur Burial ground in Ward No.05
	Executive Engineer, Project Division Yalahanka
	MCTPL/BBMP/Project-YNK/2017-2018/QR/01
Type	Wet Mix Macadam
	K.R.I.D.L
Method	Specification for Road & Bridge Works, MORT&H, Rev. V.
	Wet Mix Plant
	Coarse Aggregates
No	1
	11-Jun-2018

Sl No	Description	Unit	Liquid Limit	Plastic Limit
	Penetration	mm		
1	Container No	no		
2	Weight of container,(A)	gm		
3	Weight of container + wet s	gm	**Non Plastic**	**Non Plastic**
4	Weight of container + dry s	gm		
5	Weight of water, D=(B - C	gm		
6	Weight of dry soil, E=(C - A	gm		
7	Water Content, D/E x 100	gm		

Comments: <6 so Non Plastic

Note:

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ii. The results relate only to the items tested.
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Test Report
Liquid and Plastic Limit by Cone Apparatus

Name	Asphalting road from Amruthahalli main road to Jakkur Burial ground in Ward No.05
	Executive Engineer, Project Division Yalahanka
	MCTPL/BBMP/Project-YNK/2017-2018/QR/01
Type	Wet Mix Macadam
ractor	K.R.I.D.L
Method	Specification for Road & Bridge Works, MORT&H, Rev. V.
	Wet Mix Plant
	Coarse Aggregates
No	2
	11-Jun-2018

Sl No	Description	Unit	Liquid Limit	Plastic Limit
	Penetration	mm		
1	Container No	no		
2	Weight of container,(A)	gm		
3	Weight of container + wet soil, (B)	gm	**Non Plastic**	**Non Plastic**
4	Weight of container + dry soil, (C)	gm		
5	Weight of water, D=(B - C)	gm		
6	A)	gm		
7	(%)	gm		

ts: <6 so Non Plastic

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Test Report
Liquid and Plastic Limit by Cone Apparatus

Name	Asphalting road from Amruthahalli main road to Jakkur Burial ground in Ward No.05
	Executive Engineer, Project Division Yalahanka
	MCTPL/BBMP/Project-YNK/2017-2018/QR/01
Type	Wet Mix Macadam
ctor	K.R.I.D.L
Method	Specification for Road & Bridge Works, MORT&H, Rev. V.
	Wet Mix Plant
	Coarse Aggregates
No	3
	11-Jun-2018

Sl No	Description	Unit	Liquid Limit	Plastic Limit
	Penetration	mm		
1	Container No	no		
2	Weight of container,(A)	gm		
3	Weight of container + wet soil, (B)	gm	**Non Plastic**	**Non Plastic**
4	Weight of container + dry soil, (C)	gm		
5	Weight of water, D=(B - C)	gm		
6	A)	gm		
7	(%)	gm		

<6 so Non Plastic

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Test Report
Field Density Test by Sand Replacement Method

Project Name	Asphalting road from Amruthahalli main road to Jakkur Burial ground in Ward No.05
Client	Executive Engineer, Project Division Yalahanka
Job No	MCTPL/BBMP/Project-YNK/2017-2018/QR/01
Mix Type	Wet Mix Macadam
Contractor	K.R.I.D.L
Test Method	IS: 2720 (Part - 16) 1963 & Specification for Road & Bridge Works,
Location	bay
Material	Wet Mix Macadam
Sample No	1
Date	12-Jun-2018

Test Hole No	1
MDD	2.24
OMC in %	3.2
Bulk Density Ys	1.392
Weight of Sand In cone W1 (gm)	1195
Weight Of Wet soil From Hole (W2)	4280
Sand +Cylinder Before Pouring (W3)gm	17000
Sand +Cylinder After Pouring (W4) gm	13180
Sand In Hole: W5 = W3 - W4- W1 (gm)	2625
Volume of Hole: V= W5/ Ys	1885.8
Bulk Density Yb= W2/V (gm/cc)	2.27
Moisture Meter Reading (%)	1.5
Moisture Content : w (From Graph In %)	3.22
Dry Density Yd = Yb/(1+W/100)	2.2
Field Compaction(%)	98.16

Note:

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Test Report
Field Density Test by Sand Replacement Method

Project Name	Asphalting road from Amruthahalli main road to Jakkur Burial ground in Ward No.05
Client	Executive Engineer, Project Division Yalahanka
Job No	MCTPL/BBMP/Project-YNK/2017-2018/QR/01
Mix Type	Wet Mix Macadam
Contractor	K.R.I.D.L
Test Method	IS: 2720 (Part - 16) 1963 & Specification for Road & Bridge Works,
Location	bay
Material	Wet Mix Macadam
Sample No	2
Date	12-Jun-2018

Test Hole No	2
MDD	2.24
OMC in %	3.20
Bulk Density Ys	1.39
Weight of Sand In cone W1 (gm)	1195.00
Weight Of Wet soil From Hole (W2)	4325.00
Sand +Cylinder Before Pouring (W3)gm	17000.00
Sand +Cylinder After Pouring (W4) gm	13170.00
Sand In Hole: W5 = W3 - W4- W1 (gm)	2635.00
Volume of Hole: V= W5/ Ys	1892.96
Bulk Density Yb= W2/V (gm/cc)	2.28
Moisture Meter Reading (%)	1.59
Moisture Content : w (From Graph In %)	3.30
Dry Density Yd = Yb/(1+W/100)	2.21
Field Compaction(%)	98.74

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